The Field Museum

Natural News

Weekly Staff Newsletter
August 6, 1999

Editorial

This issue of the *Natural News* includes a very important report.

Over the summer **Danielle Neuhauser**, an intern from Northland College in Ashland, Wisconsin, studied the flow of paper into and out of the Museum in an effort to help us improve the way we use, reuse and recycle paper.

Her report goes into a great deal of detail on how paper is used in the building, and she makes some very helpful recommendations on ways we can do a much better job of recycling.

Some highlights of Danielle's report:

- In 1998-99 we recycled 29.75 tons of paper
- In 1998-99 we recycled 30.69 tons of cardboard
- We saved about 4,475 trees through recycling in 1998-99

Some disturbing discoveries:

- We currently recycle only about *25%* of the paper which we could recycle each year;
- Many of our "public image" materials are printed on virgin paper or on paper with a relatively small recycled content;
- Too much of the paper which we could recycle goes instead into the trash—not only is this environmentally irresponsible, but it is more expensive. Pound for pound, recycling costs less than 20% of what disposal costs.

So where do we start?

- Each of us can re-commit ourselves to recycling by being more careful to separate recyclable paper from our trash;
- The Museum can provide more recycling bins and totes, and ensure that recycling pickups are timely;
- We can also try some simple changes, like printing documents on both sides of a piece of paper or using the lowest toner setting on our printer when printing drafts.

Danielle's report gives us an excellent place to start. We have much to celebrate, but much more to do where recycling and our commitment to the environment are concerned.

Rodger Patience

FIELD NOTES

Week of August 9

Public Events/Special Events

Downtown Thursday Nights
(Museum open until 8 p.m.)
- Thursday

Millennium Mosaic Project
- Friday and Saturday

Staff/Volunteer Events

Tae Bo Class
- Monday, 5 p.m., Ground Floor East

Aerobics Class
- Tuesday, 5 p.m., Ground Floor East
- Thursday, 5 p.m., Ground Floor East

Tuesday Noon Seminar Series
- Zoology Classroom

Running Club
- Wednesday 5 p.m.
  Meets at West Door

Softball
- Wednesday after work vs.
  Chicago Historical Society
  Call John Petreikis at ext. 7340
  for details/directions

ATTENTION MOVIE BUFFS!!

Call or stop by the Human Resources office for discounted movie tickets for Loews/Cineplex Odeon/ Sony Theatres for only $5. *(Check your newspaper to make sure discounted tickets may be used for your movie.)*

ACADEMIC AFFAIRS

Steve Goodman leaves for extended trip

In late July Steve Goodman (Zoology) left Chicago for a period of about 10 months. Most of this time he will be in Madagascar conducting research, teaching at the Université d'Antananarivo, and coordinating an educational program for WWF-Madagascar. In late August and September Steve will visit Paris, taking part in a symposium on the biogeography of Madagascar and then visiting museums in Paris and London. His only other planned trip away from Madagascar will be to Gabon in February and March 2000, in order to conduct field work in the Mt. Doudou area. Steve is scheduled to be back in Chicago in early June 2000.

Martina Hough joins Anthropology Department

The Anthropology department wishes to welcome **Martina Hough** as administrative coordinator, replacing Sheryl Heidenreich. Martina is well known in the museum through her work in Exhibits and Institutional Advancement, and we are excited about her joining our department. In the coming months, the department will be full of activity; however, with Martina's support it should prove a successful period.

Ingers find frogs in number during Sri Lanka trip

Curator emeritus Robert F. Inger and research associate Tan Fui Lian (*aka* Fui Lian Inger) recently returned from Sri Lanka, where they spent three weeks in the field. They were invited by the Wildlife Heritage Trust of Sri Lanka, which wanted their help with their amphibian monitoring and inventory projects.

The Wildlife Heritage Trust began a general survey of the fauna of Sri Lanka in 1993 and to their astonishment there seemed to be many times the 17 species of tree frogs listed in a book on Sri Lankan frogs published in 1996. In fact, they thought there might be as many 250 species–or more than all the known species of tree frogs in tropical Asia!

Bob and Fui Lian are not sure what the final count may be, but they saw at least 50 species of tree frogs and had time to visit only five sites. The Wildlife Heritage Trust has sampled at more than 100 sites and has plans for repeated visits to many of those places.

One of the surprises for Bob and Fui Lian is that they heard more frogs calling every night in the misty hills of Sri Lanka than they ever heard in the Bornean rain forest. How to make sense of that? There are many other unanswered questions, but small Sri Lanka may turn out to be one of the world's hot spots for frogs. Bob and Fui Lian expect to have a continuing relationship with the Wildlife Heritage Trust.

This short, exciting expedition was partially supported by a gift to The Field Museum by Withrow and John Meeker.

Malcolm X students get inside story on geology careers

On Friday, July 16, **Lisa Bergwall** gave a tour to a class of science students from Malcolm X College. Professor Marva Watts' 12 students were interested in learning about possible careers after college, and Lisa walked them around the department to talk with Geology staff about what they do here at The Field Museum.

Clarita Nuñez showed them some of the collections and explained what she does as collections manager of Mineralogy/Paleomagnetics, **Peter Wagner** talked about his fossil invertebrate research (for which he just received an NSF grant), and Lisa showed them the preparation labs and talked about what she and the other preparators do in the Geology department. We received a very nice phone call from Professor Watts to thank Lisa for the tour and to say that the students had a great time.

Submitted by **Carter O'Brien**

The Flow of Paper in The Field Museum and its Environmental Impact

Environmental Conservation Programs Department

Research Intern: Danielle Neuhauser
Direction: Bill Stanley and Sophie Twichell
Project Dates: June 1 to July 26, 1999

The Paper Life Cycle and Environmental Impact

Timber harvest or other raw fiber materials

- 6,000 trees are harvested annually in the U.S. for paper
- Old-growth forest ends up as paper, destroying valuable ecosystems

Paper Mill (paper processing)

- 17 Watt hours energy per sheet
- 0.07 gallons of water per sheet
- Chlorine bleaching

  Tetrachlorodiebenzo-p-dioxin and 1,000 other different types of organochlorides are created, leaching into our ecosystem via the water system. ECF labeled paper would not eliminate organochlorides. The EPA's study on dioxins in 1990 proved that they are harmful to humans in any amount. They can last in the environment from 7 to 30 years, and will bioaccumulate in the food chain. Dioxins can cause cancer, birth defects, decreased fertility, endometriosis, and weakened immune systems.

Paper use

- Some paper used for sanitary reasons is not recyclable
- Fax machines, printers, and xerox machines use energy

  Energy plants produce either carbon dioxide (a greenhouse gas) or hazardous nuclear waste.
- Fax machines, printers, and xerox machines use inks/dyes:

  Printing generates hazardous wastes, including volatile organic compound emissions from petroleum and rubber based inks, which creates a hazardous work environment and smog.
- Soy ink

  Soy based inks are an alternative to petroleum-based inks. Soy ink comes in clear, vibrant colors, due to the clarity of the soybean oil, and therefore will be used in smaller amounts than petroleum ink for similar jobs. It also does not rub off as easily as other inks and is laser proof with a very high boiling point, so it sticks to the paper instead of the printer. Printers use less water on their presses because soy ink is more water-receptive than petroleum ink. When paper is recycled, soy ink is more easily removed, resulting in less fiber damage and a brighter color. Soy ink can be used for several print methods, including newspaper, sheet-fed , heat-set, cold-set, business form, and flexography. The cost can be from 0 to 25% more than petroleum inks.

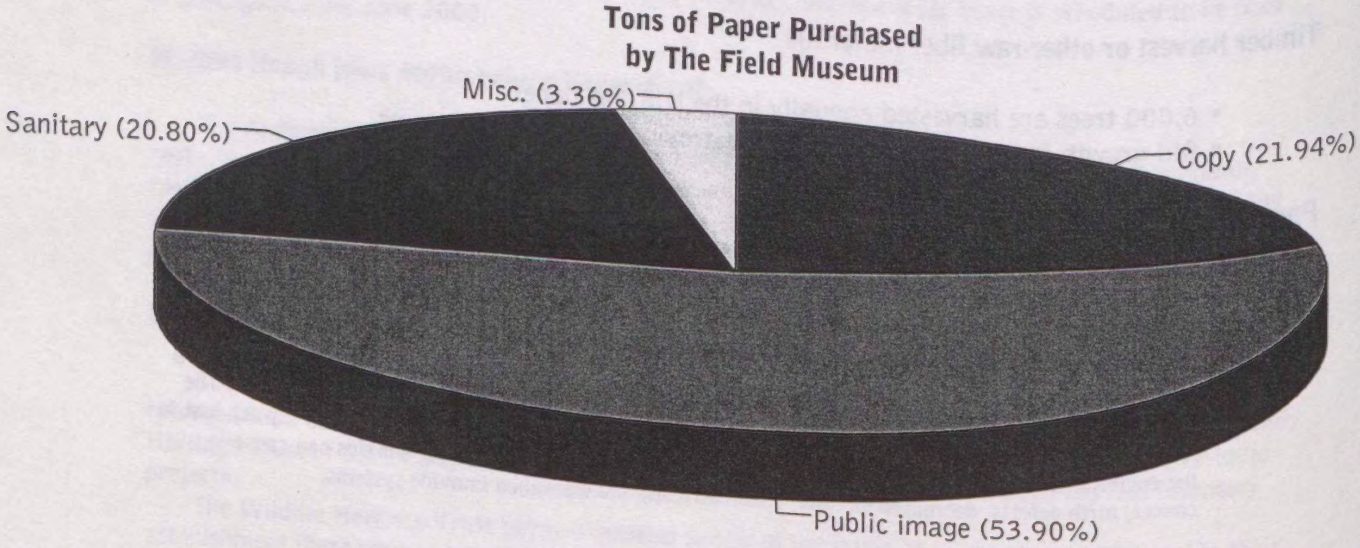
Paper recycling (reprocessing)

- 12 Watt hours energy per sheet
- 0.03 gallons of water per sheet
- Dioxins in bleaching and de-inking
- Most recycled paper still has more than 50% new fiber

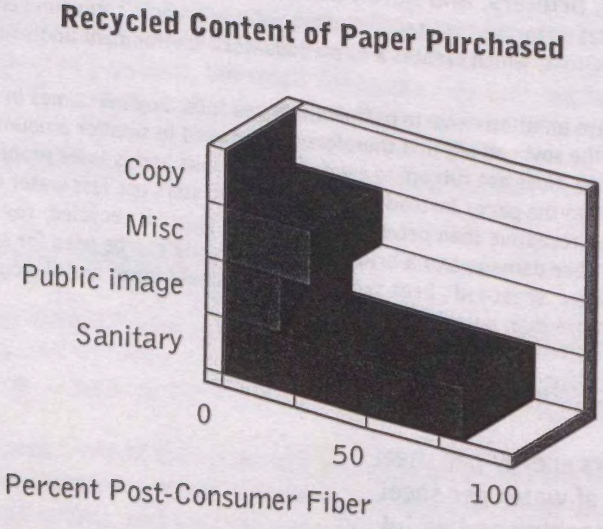
Paper disposal

- Forty percent of U.S. landfills are made up of paper:
  Landfill space is being wasted
  Dioxins and ink chemicals are leaching into lakes and groundwater

Data Collected on the Museum's Use of Paper



Total Amount: 106 tons
Total Dollars Spent: $390,153



**Post-consumer fiber means paper content has been used by the consumer at least once and recycled.*

Paper Use Expense

Machine	Kilowatts/yr	Energycost/yr	Maintenance	General	Totals
Image Runner	548	$49	$2,160		$2,209
Canon NP 9120	10,512	$846	$14,400		15,246
HP Poster	175	$14	n/a		14
Camera	n/a	n/a	$2300		2,300
Color Laser 900	314	$25	n/a		25
Fax Phone	n/a			$ 15,000	15,000
Personal print	n/a	n/a		* $6000	6,000
Personal xerox	n/a	n/a		** $1440	1,440
Mail				3.5 cents/ounce	$ 7,000/ ton
Ink			$780		780
Print Press	n/a		$1800		1,800
Binders	n/a		$733		733
Totals					**$52,547**

** cost from 500 printers in the building*
*** cost from 20 xerox machines in the building*

Data Collected from the Museum's Recycling Program

1998-99 Environmental Impact Statement for The Field Museum

Paper recycled: 29.75 tons

Cardboard Recycled: 30.69 tons

World Resources Conserved:
- 4,475 trees
- 1,428,820 gallons of water
- 1,079,366 Kilowatts of electricity (fossil fuels)
- 23,456 cubic feet of landfill space
- 15,796 pollutants kept out of atmosphere

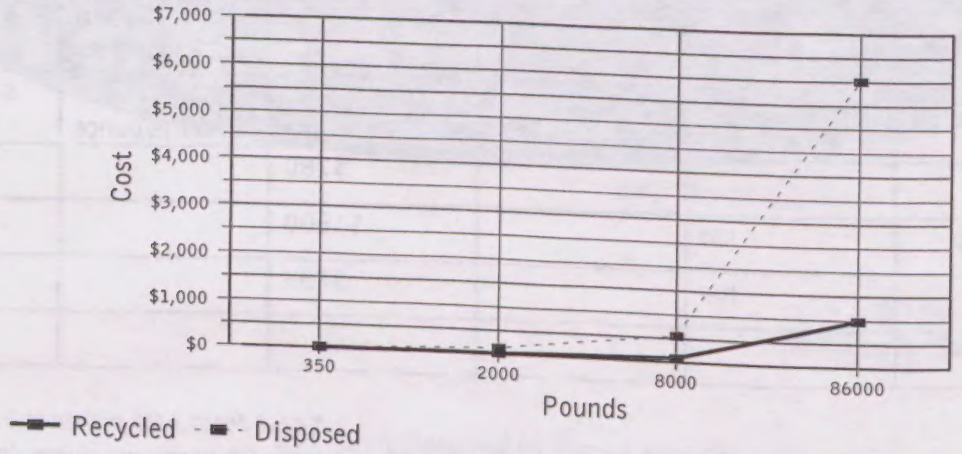
Annually, the museum recycles about 45 tons of paper, while 22 tons of sanitary paper is purchased and disposed of into the trash.

About 14 tons of the recycled paper was mailed in and 21 tons of the paper that is purchased is mailed out. About 10 tons remain filed.

Out of the 106 tons of paper tracked in this study, 10 tons are recycled. Subtracting sanitary paper, mailed paper, and filed paper, 10 out of 53 tons of recyclable paper is actually recycled. The other 43 tons is disposed of (or comes from an uncalculated source).

On average, the museum disposes of 1,200 tons of garbage each year. Each month 100 tons of garbage is being sent to a landfill from this museum. It can be estimated that four percent (43 tons) of this waste is recyclable paper.

Recycling vs. Disposal Costs



The Museum spends $6020 to dispose of 43 tons (86,000 lbs.) of paper annually, rather than the $983 that it would cost to recycle that paper. If our recycling tonnage gets very high, we will stop getting charged for the pick-up service, and may even get paid for it.

Recommendations

Purchasing Department

An alternative to the current copy paper is **New Life DP100**, a Processed Chlorine Free, 80% recycled (60% post-consumer) paper that is brighter than the Museum's current Hammermill copy paper. New Life DP100 costs 21 cents more per ream, or about $2,000 per year.

Housekeeping

This department is doing a good job with the sanitary tissue that it purchases, which contains 70 to 95 percent post-consumer fiber and is partly unbleached. They are also taking measures to reduce the amount of paper purchased per month. Let's see this great work continue!

Housekeeping could help departments by picking up full green totes and emptying blue bins that are placed by the freight elevator. They could also replace full totes with empty ones at each of the recycling stations in these areas: Finance (ground), President's Office (ice closet on ground), Print shop (ground), Education (ground), Computing (second), Zoology (third), and Exhibits (fourth).

Combined with regular participation of staff members to empty their personal blue and black bins into the green totes, Housekeeping can help the recycling process become easier and more organized.

Public Image: Publications/Marketing/Public Relations/Visitor Services

In The Field

Printed by an outside source on virgin paper with regular ink. To print this magazine with recycled paper and with soy ink would cost about $4,000 to $5,000 more per issue. Further investigation may provide for a cheaper alternative, but to underscore the museum's public image and message of commitment to the environment, I strongly recommend taking steps to print on recycled, chlorine-free paper with soy ink.

Letterhead

Letterhead also makes a statement to the museum's public. Currently the museum letterhead is 20% recycled content—a good start. However, there is a comparable 100% recycled option available through the same company: the Genesis line of recycled and chlorine free papers. Letterhead which is labeled chlorine-free and recycled makes a statement to the public that The Field Museum is committed to preserving our environment and practices what it preaches.

Maps

Maps are a major source of paper coming into the building. Printing on recycled, chlorine-free paper with soy ink is recommended. Though these steps may be too costly for now, collecting and re-using museum maps is one effective way to save money and reduce impact on the environment, without immediately changing purchasing practices.

Any department which orders brochures, such as the *Field Map*, or magazines, like *In The Field*, can select soy inks for their publications. Soy inks would also make the recycling of brochures more feasible.

If your printer does not use soy ink, then you can ask them to do so or check with these printers:

H & H Press, Inc.	500 S. Clinton Street	Howard Hammond
Sunshine Printing &Graphics	920 N. Franklin Street, Suite 301	Ross Thompson
Mercury Printing Service	640 W. Lake Street	Ted Kielch
Preston Press, Inc.	1630 S. Michigan Avenue	Keith Winaus

Print Shop

- Recycle inks to make black inks by combining used colors (if colors are used on the press). Reformulated black ink is comparable to lower quality new black inks, like newspaper inks.
- Ship waste to a hazardous waste site through an established hazardous waste transporter, and register this activity with the EPA.
- Send inks to a fuel blending service for use in industrial boilers
- Use soy inks or other inks with fewer heavy metals in them.

Here is a list of soy ink manufacturers in the Chicago area:

Alden & Ott printing Inks Arlington Heights, IL (847) 956-6830	INX International Ink Co. Elk Grove Village, IL (708) 981-9399	A.B. Dick Co. Niles, IL (800) 752-5139	Central Ink Corp. West Chicago, IL (708) 231-6500

- Use natural, non-hazardous solvents
- Print less. Print on demand. Don't exceed the actual need of an order.

The print shop is starting to recycle toner cartridges - smart move!

All Departments

- Place a box next to your printer to hold one-sided paper (paper with one side blank). Print various documents on this paper and put an X over the used side, or use this paper for scratch.
- Learn how to double side your print jobs manually.
- Avoid unnecessary printing
- Eliminate cover sheets on faxes and shared printers
- Image size reduction (legal size to 8-1/2 by 11)
- Use smaller sheets for inter-office memos, or use e-mail instead
- Purchase recycled toner cartridges. In doing so, you save two quarts of oil each and a substantial amount of money (about 40 %).
- Unfortunately, there is no alternative for copy toner, which is used in laser jet printers and xerox machines, and is very toxic. Handle toner carefully.

What Can Be Recycled?

All paper can be recycled. It is up to the individual to use his/her common sense to decide if the paper will cause problems in reprocessing.

Usually heavy or toxic, non-fiber elements in the paper will do this. These include: glues, heavy dyes, plastic envelope windows, plastic coated (shiny) papers, and other strange concoctions of modern science. The best thing would just be to phase out the use of these types of paper.

Books and paperboard (like cereal boxes) can be recycled in green totes; cardboard is separated and goes into the compactor.

Computer Services

FirstClass intranet server by SoftArc (for all departments)

Computer software can be a great tool for conserving paper in the office. With a program like First Class, several museum-wide capabilities can be easily accessed.

Having these capabilities can greatly reduce the use of paper, specifically the printing of draft documents for multiple viewers, and the use of paper forms for database-type information and inter-office memos.

E-mail:

From inside or outside the Museum, staff can

- read mail and send attached files w/o file incompatibility
- receive museum-wide, department, or team e-mail distributions.

Electronic File System

- Storage of user files for projects and department user documents
- Allow/restrict access to files stored on server
- Central location of team project files
- Vendors/partners can access file server with permission
- Staff can transfer/access files from home PC/internet service

Intranet Use:

- FirstClass server can provide for databases, calenders, room reservations, etc.
- Custom applications such as green sheets and time sheets can be developed
- Electronic Forms (employee job applications, order forms, formal proposal documents)

** increased efficiency of intranet use and applications will depend on departmental system integration.*

Cost: A user license can be obtained at a low price of $4,000. The server will cost between $8,000 and $10,000, and additional hard drive space will be needed, at a cost of about $3,000.

Security Services

Appoint a person to monitor the organization of the recycling area in loading dock. Make sure the bins can be easily retrieved and that there are no obstructions in the entryway (McDonald's and Corner Bakery have been storing their crates in this area).

Special Events

After large events, someone needs to supervise the clean-up crew to ensure that garbage or recyclable glass and metal (like bottles and cans) is not being put into the paper recycling bins.

Finance

Purchase more recycling bins and totes for museum staff. More bins will mean better convenience for employees and less paper ending up in the trash.

In a recent survey, departments expressed the need for 10 more blue bins, 42 more black bins, and 8 more green totes.

End Comments

The museum's paper cycle can become sustainable by implementing certain operational changes. These include responsible purchasing of new paper, efficient use of paper, and recycling.

The easiest and most effective strategy is to shift the focus of effort from recycling to reducing and reusing. Minimal effort can be doubly effective in saving time, money, and the environment.

Consuming products uses energy and resources, pollutes, and costs money. By buying sustainable products, this resource use is reduced considerably, and your purchase contributes to the lowering of these product prices overall by strengthening these developing industries.

With each of these changes, we can avoid the use of hazardous chemicals, such as chlorine and petroleum-based inks, and support the growing industries of chlorine-free paper mills and other sustainable industries.

It is important to learn how we can lessen our impact on the environment while increasing our performance as a business.

The task of researching and implementing environmental changes would be best assigned to a dedicated individual or group of individuals to tackle these issues alone, combined with correspondence with staff members, especially with administrative staff.

Finally, public knowledge of our efforts is important not only to boost the Museum's public image, but to attract environmental achievement awards and conservation grants which will help us continue to show environmental leadership in the community.

Sources

EPA RCRA website: www.epa.gov/osw/topics.htm
Code of Federal Regulations: www.epa.gov/docs/epacfr40/
ReThink Paper: www.rethinkpaper.org
Reach For Unbleached: www.rfu.org/WiseUse.htm
National Soy Ink Information Center: www.soyink.com
Recycling Services, Inc.: Keith Bell and Laura Chase
Merchandise Distribution: Ken Wheaton
WWF Paper: Caryn Esko

Field Museum: Finance—Tom Geary
Housekeeping—Ali Obaiddallah
Computing—Brad Loetel
Marketing—Marla Camp
Print shop—Ed Czerwin
Mailroom—Franz Eliacin

A special seminar, Tuesday at noon

This coming Tuesday, August 10, Mr. Tan Heok Hui will be speaking to us on the subject of "The Fighting Fishes (Genus *Betta*) of Southeast Asia." Mr. Hui is a graduate student at the National University of Singapore. The unusual behaviour patterns of these fish have made them the subject of much interest. Please join us at 12 noon in the Zoology classroom.

Submitted by **Bill Burger** & **Harold Voris**

MUSEUM STORES

Store Associates lauded for customer service

Dear **Carmen Gilcrest** (Museum Stores Associate),

Thank you very much for all of your assistance. My necklace arrived today and it is exactly what I described to you. Everything was wrapped beautifully. You are an asset to The Field Museum. Keep up the good work!

Harley C., Director of Visitor Services
Houston Museum of Natural Science

Recently shopping in The Field Museum Store I was approached by your sales associate, **Janine Farmer**. Though the store was busy, Janine took quality time with me in selecting jewelry from your cases. She asked questions, genuinely was interested in my response, and suggested items in addition to those I was looking at. I travel and have experience working with sales associates. Janine gave me excellent customer service. Thank you.

Ms. Sheri T. , Miss Saigon
Broadway, New York,NY.

INSTITUTIONAL ADVANCEMENT

Steve Hines new Director of Development Operations

On July 19, **Steve Hines** joined the Museum in a new position within the Institutional Advancement area, reporting to Willard White. As director of development operations, Steve will oversee the core functions of the Development office: the Founders' Council and Annual Fund, Membership, Auxiliary Groups, Publications, and Development Services.

Steve will work with those departments to streamline and professionalize their day-to-day operations in anticipation of the next major campaign. He will work with the fundraisers to make sure that their programs are well-supported. He will also serve the whole area as point person for budgeting and other operational concerns.

Steve's office is right inside the door of the Development office on the ground floor. He can be reached at ext. 7775.

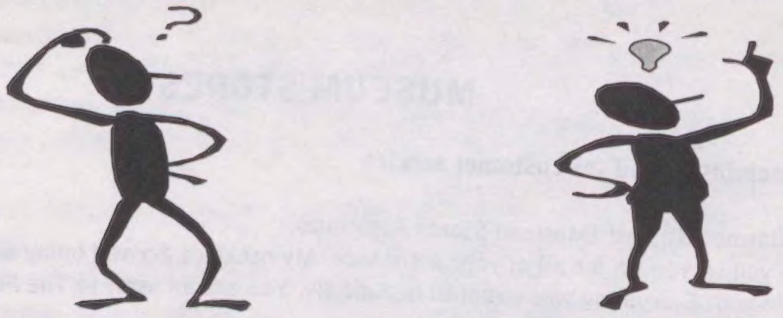
Thanks to the anonymous helper

To whoever picked up the linens that were delivered to catering west and deposited them in The Founders' Room on Monday evening, I want to say thank you.

The "slight" panic that ensued when I couldn't find the linens in catering west for an event early Tuesday morning was quickly erased when I found them hanging in The Founders' Room. Whoever you are, you were nice enough to go the extra mile, and I greatly appreciate it!

Submitted by **Janet Young**

Guess What!



GIVE UP?

Public Services

is on the INTRA-NET at

http://intranet1:100/parking

What does this site offer?

Calendar of events at the Shedd, Adler, Field and Soldier Field.
Pop-Up windows with additional
staff and volunteer parking information

http://intranet1/departments/public_services/.html

What does this site offer?

Soldier Field Parking Request Form
Soldier Field Operating Hours
Soldier Field Parking Rates
Map of the various Soldier Field Parking Lots